

Coc#9

11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-8244
East 11115 Montgomery, Suite B, Spokane, WA 99206-4776
9405 S.W. Nimbus Avenue, Beaverton, OR 97008-7132

20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

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(541) 383-9310

(509) 924-9200 (503) 906-9200 FA.

924-9290 Fax 906-9210

FAX 382-7588

420-9200 F 420-9210 924-9200 924-9290

Work Order #: M105009

CLIENT: Bristal 1	Ensilonmen	u			INVO	ICE TO):								TURN	AROUNI	O REQU	JEST in Bus	iness Da	ys*
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4.01 AMB9045L		V	V											182	5	2				
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Bend 20332 Empire Avenue, Suite F-1, Bend, OR 97701-5711

541.383.9310 fax 541.382.7588

6 December, 2001

Anne Kranawetter Bristol Environmental & Engineering 2000 W International Airport C#1 Anchorage, AK 99502-1116

RE: Amchitka

Enclosed are the results of analyses for samples received by the laboratory on 05/17/01 15:25. If you have any questions concerning this report, please feel free to contact me.

This report was recreated from a previously issued final report in order to provide an electronic copy. The final report used for these electronic copies may have been previously issued as an amended report due to client requested changes to sample names, etc. No data has changed since submission of the previously issued final, or amended, report.

Sincerely,

Stephen Wilson

Environmental Group Leader

112

Work Orders included in this report:

M105009



Anchorage, AK 99502-1116

Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-9223

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported: 10/26/01 08:53

Project Manager: Anne Kranawetter

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
01 AM B9 01 SL	M105009-01	Soil	05/17/01 13:00	05/17/01 15:25
01 AM B9 02 SL	M105009-02	Soil	05/17/01 13:05	05/17/01 15:25
01 AM B9 03 SL	M105009-03	Soil	05/17/01 13:10	05/17/01 15:25
01 AM B9 04 SL	M105009-04	Soil	05/17/01 13:15	05/17/01 15:25
01 AM B9 05 SL	M105009-05	Soil	05/17/01 13:20	05/17/01 15:25
Trip Blk 5/17/01	M105009-06	Soil	05/17/01 15:30	05/17/01 15:25

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

10/26/01 08:53

Diesel Hydrocarbons (C10-C25) per AK102 North Creek Analytical - Mobile Lab

		Reporting							
Analyte	Result	Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01 AM B9 01 SL (M105009-01) Soil					Sampled: 05	/17/01 Rece	eived: 05/17/	01	
Diesel Range Organics	7340	150	mg/kg dry	1	AK 102	05/17/01	05/18/01	0105015	
Surr: 1-Chlorooctadecane	105 %	75-125							
01 AM B9 02 SL (M105009-02) Soil					Sampled: 05	/17/01 Rece	eived: 05/17/	01	
Diesel Range Organics	33400	1500	mg/kg dry	1	AK 102	05/17/01	05/19/01	0105015	
Surr: 1-Chlorooctadecane	NR	75-125							S-02
01 AM B9 03 SL (M105009-03) Soil					Sampled: 05	/17/01 Rece	eived: 05/17/	/01	
Diesel Range Organics	9340	147	mg/kg dry	1	AK 102	05/17/01	05/18/01	0105015	R-05
Surr: 1-Chlorooctadecane	95.7 %	75-125							
01 AM B9 04 SL (M105009-04) Soil					Sampled: 05	/17/01 Rece	eived: 05/17/	/01	
Diesel Range Organics	26200	1490	mg/kg dry	1	AK 102	05/17/01	05/19/01	0105015	R-05
Surr: 1-Chlorooctadecane	130 %	75-125							S-02
01 AM B9 05 SL (M105009-05) Soil					Sampled: 05	/17/01 Rece	eived: 05/17/	01	
Diesel Range Organics	27100	1490	mg/kg dry	1	AK 102	05/17/01	05/19/01	0105015	R-05
Surr: 1-Chlorooctadecane	125 %	75-125	- 			<u></u>	- 		

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering 2000 W International Airport C#1 Project: Amchitka
Project Number: 21090

Reported:

Anchorage, AK 99502-1116 Project Manager: Anne Kranawetter

10/26/01 08:53

BTEX,MTBE and Naphthalene per EPA Method 8021B North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01 AM B9 01 SL (M105009-01) Soil					Sampled: 05	/17/01 Rece	eived: 05/17/	01	G-01,A-02
Benzene	ND	0.264	mg/kg dry	50	!1B BTEX/MT	ΓΙ 05/18/01	05/18/01	0105019	
Toluene	ND	0.264	"	"	"	"	"	"	
Ethylbenzene	0.914	0.264	"	"	"	"	"	"	
Xylenes (total)	1.64	0.527	"	"	"	"	"	"	
Naphthalene	4.09	2.64	"	"	"	"	"	"	
Surr: 4-BFB	NR	50-150							S-02,A-01c
01 AM B9 02 SL (M105009-02) Soil					Sampled: 05	/17/01 Rece	eived: 05/17/	01	G-01,A-02
Benzene	ND	0.400	mg/kg dry	50	!1B BTEX/M	ΓΙ 05/18/01	05/18/01	0105019	
Toluene	ND	0.400	"	"	"	"	"	"	
Ethylbenzene	ND	0.400	"	"	"	"	"	"	
Xylenes (total)	3.72	0.800	"	"	"	"	"	"	
Naphthalene	ND	4.00	"	"	"	"	"	"	
Surr: 4-BFB	NR	50-150							S-02,A-01b
01 AM B9 03 SL (M105009-03) Soil					Sampled: 05	/17/01 Rece	eived: 05/17/	01	G-01,A-02
Benzene	ND	0.284	mg/kg dry	50	!1B BTEX/MT	ΓΙ 05/18/01	05/18/01	0105019	
Toluene	ND	0.284	"	"	"	"	"	"	
Ethylbenzene	ND	0.284	"	"	"	"	"	"	
Xylenes (total)	13.8	0.568	"	"	"	"	"	"	
Naphthalene	4.28	2.84	"	"	"	"	"	"	
Surr: 4-BFB	NR	50-150							S-02,A-01d
01 AM B9 04 SL (M105009-04) Soil					Sampled: 05	/17/01 Rece	eived: 05/17/	01	G-01,A-02
Benzene	ND	0.257	mg/kg dry	50	!1B BTEX/M	ΓΙ 05/18/01	05/18/01	0105019	
Toluene	ND	0.257	"	"	"	"	"	"	
Ethylbenzene	ND	0.257	"	"	"	"	"	"	
Xylenes (total)	2.29	0.514	"	"	"	"	"	"	
Naphthalene	3.13	2.57	"	"	"	"	"	"	
Surr: 4-BFB	NR	50-150							S-02,A-01a

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering 2000 W International Airport C#1

Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

Project: Amchitka

10/26/01 08:53

BTEX,MTBE and Naphthalene per EPA Method 8021B North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit	Units	Dilution	Method	Prepared	Analyzed	Batch	Notes
01 AM B9 05 SL (M105009-05) Soil					Sampled: 05/1	7/01 Rece	eived: 05/17/	01	G-01,A-02
Benzene	ND	0.259	mg/kg dry	50	!1B BTEX/MT	05/18/01	05/18/01	0105019	
Toluene	ND	0.259	"	"	"	"	"	"	
Ethylbenzene	0.349	0.259	"	"	"	"	"	"	
Xylenes (total)	6.40	0.518	"	"	"	"	"	"	
Naphthalene	4.14	2.59	"	"	"	"	"	"	
Surr: 4-BFB	NR	50-150							S-02,A-01
Trip Blk 5/17/01 (M105009-06) Soil					Sampled: 05/1	7/01 Rece	eived: 05/17/	01	
Benzene	ND	0.0259	mg/kg dry	50	!1B BTEX/MT	05/18/01	05/18/01	0105019	
Toluene	ND	0.0259	"	"	"	"	"	"	
Ethylbenzene	ND	0.0259	"	"	"	"	"	"	
Xylenes (total)	ND	0.0517	"	"	"	"	"	"	
Naphthalene	ND	0.259	"	"	"	"	"	"	
Surr: 4-BFB	90.7 %	50-150							

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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka
Project Number: 21090

Reported:

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

10/26/01 08:53

Physical Parameters per APHA/ASTM/EPA Methods North Creek Analytical - Mobile Lab

Analyte	Result	Reporting Limit Units	Dilution	Method Prepared Analyze	d Batch Notes
Analyte	Kesuit	Limit Units	Dilution	Method Frepared Analyze	u Batcii Notes
01 AM B9 01 SL (M105009-01) Soil				Sampled: 05/17/01 Received: 05/1	7/01
% Solids	73.5	0.0100 % by Weight	1	Gravimetric 05/17/01 05/18/01	0105021
01 AM B9 02 SL (M105009-02) Soil				Sampled: 05/17/01 Received: 05/1	7/01
% Solids	87.4	0.0100 % by Weight	1	Gravimetric 05/17/01 05/18/01	0105021
01 AM B9 03 SL (M105009-03) Soil				Sampled: 05/17/01 Received: 05/1	7/01
% Solids	88.1	0.0100 % by Weight	1	Gravimetric 05/17/01 05/18/01	0105021
01 AM B9 04 SL (M105009-04) Soil				Sampled: 05/17/01 Received: 05/1	7/01
% Solids	89.5	0.0100 % by Weight	1	Gravimetric 05/17/01 05/18/01	0105021
01 AM B9 05 SL (M105009-05) Soil				Sampled: 05/17/01 Received: 05/1	7/01
% Solids	88.8	0.0100 % by Weight	1	Gravimetric 05/17/01 05/18/01	0105021
Trip Blk 5/17/01 (M105009-06) Soil				Sampled: 05/17/01 Received: 05/1	7/01
% Solids	100	0.0100 % by Weight	1	Gravimetric 05/17/01 05/18/01	0105021

North Creek Analytical - Mobile Lab

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

5 of 8



Anchorage, AK 99502-1116

Seattle 11720 North Creek Pkwy N, Suite 400, Bothell, WA 98011-9223

10/26/01 08:53

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

oject Number: 21090 Reported:

Diesel Hydrocarbons (C10-C25) per AK102 - Quality Control

Project Manager: Anne Kranawetter

North Creek Analytical - Mobile Lab

North Creek Analytical - Mobile Lab											
Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch 0105015 - 3545 ASE											
Blank (0105015-BLK1)				Prepare	d: 05/17/0	1 Analyz	ed: 05/18/0)1			
Diesel Range Organics	ND	150 г	ng/kg wet								
Surr: 1-Chlorooctadecane	10.5		"	12.5		84.0	75-125				
LCS (0105015-BS1)				Prepare	d: 05/17/0	1 Analyz	ed: 05/18/0)1			
Diesel Range Organics	1190	150 r	mg/kg wet	1250		95.2	75-125				
Surr: 1-Chlorooctadecane	14.8		"	12.5		118	75-125				
LCS Dup (0105015-BSD1)				Prepare	d: 05/17/0	1 Analyz	ed: 05/18/0)1			
Diesel Range Organics	1150	150 r	mg/kg wet	1250		92.0	75-125	3.42	20		
Surr: 1-Chlorooctadecane	14.1		"	12.5		113	75-125				
Matrix Spike (0105015-MS1)	Sou	ırce: M1050	09-01	Prepare	d: 05/17/0	1 Analyz	ed: 05/18/0)1			
Diesel Range Organics	9140	150	mg/kg dry	1700	7340	106	60-140	·			
Surr: 1-Chlorooctadecane	16.6		"	17.0		97.6	75-125				

North Creek Analytical - Mobile Lab



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Bristol Environmental & Engineering 2000 W International Airport C#1

Project: Amchitka Project Number: 21090

Reported: 10/26/01 08:53

Anchorage, AK 99502-1116

Project Manager: Anne Kranawetter

BTEX,MTBE and Naphthalene per EPA Method 8021B - Quality Control

North Creek Analytical - Mobile Lab

		Reporting		Spike	Source		%REC		RPD	
Analyte	Result	Limit	Units	Level	Result	%REC	Limits	RPD	Limit	Notes

Batch 0105019 - MeOH Exti	raction
---------------------------	---------

Blank (0105019-BLK1)		Prepared & Analyzed: 05/18/01							
Benzene	ND	0.100 n	ng/kg wet						
Toluene	ND	0.100	"						
Ethylbenzene	ND	0.100	"						
Xylenes (total)	ND	0.200	"						
Naphthalene	ND	1.00	"						
Surr: 4-BFB	2.42		"	2.50	96.8	50-150			
LCS (0105019-BS1)				Prepared & A	Analyzed: 05/1	8/01			
Benzene	2.34	0.100 n	ng/kg wet	2.50	93.6	69-138			
Toluene	2.30	0.100	"	2.50	92.0	53-151			
Ethylbenzene	2.44	0.100	"	2.50	97.6	61-141			
Xylenes (total)	6.87	0.200	"	7.50	91.6	62-141			
Naphthalene	2.88	1.00	"	2.50	115	75-126			
Surr: 4-BFB	2.58		"	2.50	103	50-150			

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Bristol Environmental & Engineering Project: Amchitka 2000 W International Airport C#1 Project Number: 21090

Reported:

10/26/01 08:53

Project Manager: Anne Kranawetter

Notes and Definitions

Surrogate recovery equals 273%.
Surrogate recovery equals 304%.
Surrogate recovery equals 421%.
Surrogate recovery equals 455%.
Surrogate recovery equals 527%.
BTEX Data is estimated, reported values were not confirmed on second pid system.
This sample appears to contain extractable diesel range organics.
Reporting limits raised due to dilution necessary for analysis.
The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample.
Analyte DETECTED
Analyte NOT DETECTED at or above the reporting limit
Not Reported
Sample results reported on a dry weight basis. MRLs are adjusted if %Solids are less than 50%.
Sample results reported on a wet weight basis (as received)
Relative Percent Difference

North Creek Analytical - Mobile Lab

Items for Project Manager Review

LabNumber	Analysis	Analyte	Exception
			Default Report (not modified)
			Report recreated from: \\sisters\elmnt\Report\M105009 FINAL 10 26 01 0853.mdb
M105009-01	8021B BTEX/MTBE/N	4-BFB	A-01c
M105009-01	8021B BTEX/MTBE/N	4-BFB	Exceeds upper control limit
M105009-01	8021B BTEX/MTBE/N		A-02
M105009-01	8021B BTEX/MTBE/N		G-01
M105009-01	8021B BTEX/MTBE/N	4-BFB	S-02
M105009-02	8021B BTEX/MTBE/N	4-BFB	Exceeds upper control limit
M105009-02	8021B BTEX/MTBE/N	4-BFB	A-01b
M105009-02	8021B BTEX/MTBE/N		A-02
M105009-02	8021B BTEX/MTBE/N	4-BFB	S-02
M105009-02	8021B BTEX/MTBE/N		G-01
M105009-02	AK102 (DRO)	1-Chlorooctadecane	Exceeds upper control limit
M105009-02	AK102 (DRO)	1-Chlorooctadecane	S-02
M105009-03	8021B BTEX/MTBE/N	4-BFB	S-02
M105009-03	8021B BTEX/MTBE/N		G-01
M105009-03	8021B BTEX/MTBE/N	4-BFB	A-01d
M105009-03	8021B BTEX/MTBE/N	4-BFB	Exceeds upper control limit
M105009-03	8021B BTEX/MTBE/N		A-02
M105009-03	AK102 (DRO)	Diesel Range Organics	R-05
M105009-04	8021B BTEX/MTBE/N	4-BFB	Exceeds upper control limit
M105009-04	8021B BTEX/MTBE/N	4-BFB	S-02
M105009-04	8021B BTEX/MTBE/N		A-02
M105009-04	8021B BTEX/MTBE/N	4-BFB	A-01a
M105009-04	8021B BTEX/MTBE/N		G-01
M105009-04	AK102 (DRO)	1-Chlorooctadecane	S-02
M105009-04	AK102 (DRO)	Diesel Range Organics	R-05
M105009-04	AK102 (DRO)	1-Chlorooctadecane	Exceeds upper control limit
M105009-05	8021B BTEX/MTBE/N		G-01
M105009-05	8021B BTEX/MTBE/N	4-BFB	S-02
M105009-05	8021B BTEX/MTBE/N	4-BFB	Exceeds upper control limit
M105009-05	8021B BTEX/MTBE/N	4-BFB	A-01
M105009-05	8021B BTEX/MTBE/N		A-02
M105009-05	AK102 (DRO)	Diesel Range Organics	R-05